

What is claimed is:

1. A motor comprising:

a stator (10) having an annular yoke (16), a plurality of teeth (12) disposed at an inner circumferential portion of the yoke and a stator core (11) formed with slots (13) between the plurality of teeth, with three-phase concentrated winding wires (14U, 14V, 14S) provided to the teeth; and

a rotor (20) rotatably held in an opposed relation to an inner circumference of said stator (10) via a small clearance, and provided with permanent magnets (22) inside or on a surface of the rotor core;

said stator core (11) having an outer circumference partly being in close contact with and held by a housing (31),

wherein the yoke (16) located adjacent to outer circumferences of the teeth (12) is provided with axially penetrating through-holes (17), and the outer circumference of the stator core (11) located adjacent to outer circumferences of the through-holes (17) is in close contact with the housing (31).

2. A motor comprising:

a stator (10) having an annular yoke (16), a plurality of teeth (12) disposed at an inner circumferential portion of the yoke and a stator core (11) formed with slots (13) between the plurality of teeth, with three-phase concentrated winding wires (14U, 14V, 14S) provided to the teeth; and

a rotor (20) rotatably held in an opposed relation to an inner circumference of said stator (10) via a small clearance, and provided with permanent magnets (22) inside or on a surface of the rotor core;

said stator core (11) having an outer circumference partly being in close contact with and held by a housing (31),

wherein a notch (18) is formed at an outer circumference of the yoke located adjacent to an outer periphery of the slot (13) so that the outer circumference of the stator core (11) does not contact the housing (31) in the notch (18).

3. A motor comprising:

a stator (10) having an annular yoke (16), a plurality of teeth (12) disposed at an inner circumferential portion of the yoke and a stator core (11) formed with slots (13) between the plurality of teeth, with three-phase concentrated winding wires (14U, 14V, 14S) provided to the teeth; and

a rotor (20) rotatably held in an opposed relation to an inner circumference of said stator (10) via a small clearance, and provided with permanent magnets (22) inside or on a surface of the rotor core;

said stator core (11) having an outer circumference partly being in close contact with and held by a housing (31),

wherein a plurality of notches (18) are formed at an outer circumference of the yoke (16) located adjacent to an outer periphery of the slot (13), and the stator core (11) does not contact the housing at least on an extension of an outer circumference of the stator core at a substantially central portion with respect to a peripheral direction of the slot (13).

4. A motor comprising:

a stator (10) having an annular yoke (16), a plurality of teeth (12) disposed at an inner circumferential portion of the yoke and a stator core (11) formed with slots (13) between the plurality of teeth, with three-phase concentrated winding wires (14U, 14V, 14S) provided to the teeth; and

a rotor (20) rotatably held in an opposed relation to an inner circumference of said stator (10) via a small

clearance, and provided with permanent magnets (22) inside or on a surface of the rotor core;

said stator core (11) having an outer circumference partly being in close contact with and held by a housing (31), wherein a notch (18) is formed at an outer circumference of the yoke located adjacent to an outer periphery of the slot (13) so that the outer circumference of the stator core (11) does not contact the housing (31) at the notch (18), axially penetrating through-holes (17) are provided in the yoke (16) located adjacent to outer circumferences of the teeth (12), and the outer circumference of the stator core located adjacent to an outer circumference of the through-hole (17) is in close contact with the housing (31).

5. The motor according to any one of claims 2 to 4, wherein the notch (18) provided at the outer circumference of the yoke located adjacent to the outer periphery of the slot, is provided to be in a substantially arc shape to be substantially concentric with the housing (31).

6. The motor according to any one of claims 1 to 4, wherein when the number of teeth is assumed to be N , the stator core is in close contact with the housing in at least $N/2$ spots out of N spots on the outer circumference of the stator core located adjacent to the outer circumferences of the teeth.

7. An apparatus loaded with the motor recited in any one of claims 1 to 6.